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Unexcelled Space Flight

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THE first long space journey ever was made on August 6, 1961, by Herman Titov, a Soviet astronaut. The "Vostok-2" spaceship, piloted by Herman Titov, made more than 17 round-the-world revolutions, covering 703,143 kilometres in 25 hours 11 minutes.

One year has passed since that memorable event, but this wonderful flight remains unexcelled.

Herman Titov is the first and only man in the world so far who has completed the diurnal cycle in space.

The programme of his flight was made more complicated than that of Yuri Gagarin, the first space pilot in the world, not because someone was eager to set records or produce a sensation, but owing to the necessity to check on the conditions required by a human organism in space flight, its main feature being a prolonged stay in a state of weightlessness. Another thing that had to be determined was the reaction of the human organism to a rapid increase in overstrain during descent and landing, after the organism had become adapted to the absence of gravity. Conditions on the earth cannot give answers to these questions. Preparation for longer space flights around our planet and to our closest celestial neighbours the Moon, Mars and Venus, requires an accurate knowledge of how a man will sustain this "extra-terrestrial" state if it is maintained for a week, a month or more. This is what gives the second space flight such tremendous significance. Now we know that this flight provided space medicine and biology with new information of extensive importance. After the landing it was clear from the physical state of the astronaut that he could have remained in outer space for a longer time. The great weight of the "Vostok-2" (over four and a half tons) made it possible to equip the ship with all the necessary instruments and with all possible comforts for the astronaut.

It was able to take sufficient power and other resources; this also ensured accurate piloting of the ship and freedom in gliding. The entire flight, if need be, could have continued for ten days. The automatic control systems and all the other installations operated faultlessly. The astronaut had no need to use the hand controls and while he did so sometimes, it was only for testing purposes.

The means to prevent the ship from excess heating in the denser layers of the atmosphere performed their tasks without a hitch. The landing was quite normal in the case of both Yuri Gagarin and Herman Titov.

After the two Soviet men had successfully made their flights the family of astronauts was joined by John Glenn and Malcolm Carpenter, the American space pilots.

From the scientific point of view a comparison of the Soviet and American manned space flights shows that the latter did not by any means proceed as smoothly as might have been expected.

The weight of the ships piloted by Glenn and Carpenter was a little more than a ton (1,200 kilograms). It seems likely that this affected the quality of the equipment, which proved to be defective in several ways during flight. The first American space pilot was confronted, by the end of the first circuit, with faults in the orientation system, which led to rocking, and Glenn was therefore obliged to take over the hand controls. The second U.S. space pilot, Carpenter, was likewise obliged to take over the hand controls owing to some disorder in the automatic orientation system and lack of fuel, though in this case it was by the end of the second circuit.

The air-conditioning system in Glenn's cabin did not function properly and the temperature in the cabin was too high.

There were even more serious defects during Carpenter's flight.

With full respect for the courage and skill of American space pilots we cannot help observing that the American techniques for manned space flight call for considerable improvement.

Soviet people are peaceful people on the earth and in outer space, and this was emphasized again in Nikita Khrushchov's message to U.S. President Kennedy on the study and use of outer space. The implementation of the precise and clear proposals of the head of the Soviet Government could have relieved the people of the burdensome and pointless arms race and enabled the powerful united efforts of the Great Powers to be directed rapidly into new space discoveries.

Soviet science continues its space research on a grand scale. On July 29 the papers reported the launching of another sputnik—"Cosmos-7", one of the series in the programme for investigating the upper layers of our atmosphere and outer space. The successes of Soviet space research are making the idea of interplanetary travel more and more real.

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Moscow Diary

MOSCOW'S HALF A YEAR OF WORK

INDEED, figures can sometimes tell a better story than a long-winded description. This was my impression after reading the report of the Moscow Statistical Board on the Fulfilment of the

and specialized secondary education and that 300,000 workers have improved their qualifications in the past half year.

SCIENTIFIC CRUSADE

FOR a week people of all nationalities

Delegates to the VIIIth
International Cancer Con-
gress: P. Kalyadina
(U.S.S.R.), Dr. Pai and
Dr. Mody (India), with
Tanya Volodina, a little
Muscovite

